Serial No. 08/889,440

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Docket No.: 21.1837

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Munetaka TAKEUCHI, et al.

Serial No. 08/889,440 Group Art Unit: 2123

Confirmation No. 3473

Filed: July 8, 1997 Examiner: H. Jones

For: APPARATUS AND METHOD FOR SIMULATING PHENOMENA OF A PARTICLE OF SUBSTRATE PARTICLES AND ADSORBATE PARTICLES

REPLY TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

MAIL STOP: **APPEAL BRIEF PATENTS**
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Notification of Non-Compliant Appeal Brief (Notice) mailed February 7, 2006 in the above-identified pending US patent application. The Notice checks boxes 7 and 10 to provide the Appeal Brief filed September 10, 2004 is defective by not containing a correct copy of the appealed claims as an appendix thereto. The Examiner respectfully comments that the previous Board Order Returning Undocketed Appeal to Examiner (Order) mailed June 1, 2004, to which the Appellant filed a 1st Corrected Appendix to the Appeal Brief on September 10, 2004, incorrectly referred to the claim language in the Appellant's Amendment of August 22, 2002 section "**Version With Markings to Show Changes Made**." As the Examiner points out, under the USPTO rule 37 CFR 1.121(c) in effect at time of filing the August 22, 2002 Amendment, the claims recited in the section "**IN THE CLAIMS**" of the August 22, 2002 Amendment were entered and are correct claims appealed, even though these claims were not consonant with the claims in the section "**Version With Markings to Show Changes Made**" in the Appellant's Amendment of August 22, 2002. Therefore, the Appellant Appeal Brief originally filed on October 20, 2003 contained a correct copy of the claims appealed.

Appellants hereby file the attached Appendix To Appeal Brief (37 CFR 41.37) (2nd

Corrected) in response to the Notice of Non-Compliant Appeal Brief of February 7, 2006 to correct the defective Appellant Brief by replacing the 1st Corrected Appendix To Appeal Brief filed September 10, 2005 with a correct copy of the appealed claims as originally filed with the Appellant Appeal Brief on October 20, 2003. The attached Appendix To Appeal Brief (37 CFR 41.37) (2nd Corrected) contains a correct copy of the appealed claims as entered in the Appellant Amendment of August 22, 2002 and as originally filed with the Appellant Appeal Brief on October 20, 2003. Therefore, entry of the attached Appendix To Appeal Brief (37 CFR 41.37) (2nd Corrected) is respectfully requested to comply with 37 CFR 41.37(c)(viii).

Respectfully submitted,
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Date: March 1, 2006

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APPENDIX TO APPEAL BRIEF (37 CFR §41.37) (2ND CORRECTED)

1. (PREVIOUSLY PRESENTED) An apparatus for simulating phenomena of a particle formed of adsorbate particles and substrate particles, comprising:

a kinetic condition setting unit which sets information for defining a plurality of generation periods and a corresponding number of adsorbate particles to be generated during each generation period wherein the information can include a position of a corresponding emission source, a temperature, a chemical composition of the particle, a region, a physical condition, a velocity of each atom forming the particle, and a direction; and

a particle motion computing unit which generates the adsorbate particles in accordance with the information set by the kinetic condition setting unit and computes motion of the generated adsorbate particles, to simulate phenomena of said particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source wherein

for each adsorbate particle, the kinetic condition setting unit sets a region indicating a position of the corresponding emission source, and

the particle motion computing unit generates each adsorbate particle in accordance with the position of the corresponding emission source.

2. (CANCELED)

3. (PREVIOUSLY PRESENTED) An apparatus as in claim 1, wherein

before generating the adsorbate particles, the particle motion computing unit generates the substrate particles.

4. (ORIGINAL) An apparatus as in claim 1, further comprising:

a display which allows a user to enter the information set by the kinetic condition setting unit.

5. (PREVIOUSLY PRESENTED) An apparatus as in claim 1, wherein the kinetic condition setting unit sets information for generating the substrate particles.

6. (PREVIOUSLY PRESENTED) An apparatus as in claim 1, wherein each adsorbate particle is formed of atoms;

the information set by the kinetic condition setting unit includes information indicating whether the atoms of a respective adsorbate particle are static against a center of mass of the adsorbate particle; and

when the particle motion computing unit generates an adsorbate particle and the information set by the kinetic condition setting unit indicates that the atoms of the respective adsorbate particle are not static against the center of mass, the particle motion computing unit provides a random orientation to the atoms of the adsorbate particle.

7. (ORIGINAL) An apparatus as in claim 6, further comprising:

a display which allows a user to enter the information set by the kinetic condition setting unit.

8. (PREVIOUSLY PRESENTED) An apparatus as in claim 1, wherein each adsorbate particle is formed of atoms;

the information set by the kinetic condition setting unit includes information indicating whether the atoms of a respective adsorbate particle are static against a center of mass of the adsorbate particle; and

when the particle motion computing unit generates an adsorbate particle and the information set by the kinetic condition setting unit indicates that the atoms of the respective adsorbate particle are not static against the center of mass, the particle motion computing unit provides an initial velocity to the atoms of the adsorbate particle.

9. (PREVIOUSLY PRESENTED) An apparatus as in claim 1, wherein, when generating an adsorbate particle, the particle motion computing unit provides a random direction within a cone pointed at a substrate and being centered at a point of generation of center of mass velocity of the adsorbate particle.

10. (CANCELED)

11. (ORIGINAL) An apparatus as in claim 1, further comprising:
a display which displays the information set by the kinetic condition setting unit.

12. (PREVIOUSLY PRESENTED) An apparatus for simulating phenomena of a particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source, the apparatus comprising:
an input device which allows a user to designate a region;
a kinetic condition setting unit which, for each adsorbate particle, sets the region designed by the user as a region indicating a position of the corresponding emission source; and
a particle motion computing unit which generates the adsorbate particles in accordance with the position of the corresponding emission source as indicated by the region designated by the user and computes motion of the generated adsorbate particles, to simulate phenomena of said particle formed of adsorbate particles and substrate particles.

13. (ORIGINAL) An apparatus as in claim 12, wherein the input device is a display.

14. (ORIGINAL) An apparatus as in claim 12, further comprising:
a display which displays the information set by the kinetic condition setting unit.

15. (PREVIOUSLY PRESENTED) An apparatus as in claim 14, wherein the display shows the adsorbate particles generated by the particle motion computing unit and indicates the motion computed by the particle motion computing unit.

16. (PREVIOUSLY PRESENTED) An apparatus for simulating phenomena of a particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source, the apparatus comprising:
a kinetic condition setting unit which sets information for defining kinetic conditions of the adsorbate particles wherein the information can include a position of a corresponding emission

source, a temperature, a chemical composition of the particle, a region, a physical condition, a velocity of each atom forming the particle, and a direction; and

a particle motion computing unit which generates the adsorbate particles in accordance with the information set by the kinetic condition setting unit and the position of the corresponding emission source, and computes motion of the generated adsorbate particles, to simulate phenomena of said particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source.

17. (PREVIOUSLY PRESENTED) An apparatus as in claim 16, wherein

the adsorbate particles move towards the substrate particles,

the kinetic condition setting unit sets a region for defining an initial position of the adsorbate particles, and

the apparatus further comprises a display which displays the relationship between the region set by the kinetic condition setting unit and a region indicating a position of a substrate particle forming said particle formed of adsorbate particles and substrate particles.

18. (PREVIOUSLY PRESENTED) An apparatus as in claim 17, wherein

the kinetic condition setting unit sets information for providing a direction of velocity to the adsorbate particles, and

the display shows the direction of velocity with respect to the region set by the kinetic condition setting unit and the region indicating the position of a respective substrate particle.

19. (ORIGINAL) An apparatus as in claim 16, further comprising:

a display which displays the information set by the kinetic condition setting unit.

20. (PREVIOUSLY PRESENTED) A computer-implemented method for simulating phenomena of a particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source, the method comprising the steps of:

setting information for defining a plurality of generation periods and a corresponding number of adsorbate particles to be generated during each generation period wherein the information can include a position of a corresponding emission source, a temperature, a

chemical composition of the particle, a region, a physical condition , a velocity of each atom forming the particle, and a direction;

generating the adsorbate particles in accordance with the information set in the setting step and the position of the corresponding emission sources;

computing motion of the generated adsorbate; and

simulating phenomena of said particle formed of adsorbate particles and substrate particles in accordance with the computed motion.

21. (CANCELED)

22. (PREVIOUSLY PRESENTED) A computer-implemented method for simulating phenomena of a particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source, the method comprising the steps of:

setting, for each adsorbate particle, a region indicating a position of the corresponding emission source;

generating the adsorbate particles in accordance with the position of the corresponding emission source as indicated by the region set in the setting step;

computing motion of the generated adsorbate particles; and

simulating phenomena of said particle formed of adsorbate particles and substrate particles in accordance with the computed motion.

23. (PREVIOUSLY PRESENTED) A method for simulating phenomena of a particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source, the method comprising:

setting information for defining kinetic conditions of the adsorbate particles wherein the information can include a position of a corresponding emission source, a temperature, a chemical composition of the particle, a region, a physical condition, a velocity of each atom forming the particle, and a direction;

displaying the set information;

generating the adsorbate particles in accordance with the set information and the positions of the corresponding emission sources; and

computing motion of the generated adsorbate particles, to simulate phenomena of said particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source.

24. (PREVIOUSLY PRESENTED) An apparatus for simulating phenomena of a particle formed with adsorbate particles, comprising:

a kinetic condition setting unit which sets information for defining kinetic conditions of the adsorbate particles wherein the information can include a position of a corresponding emission source, a temperature, a chemical composition of the particle, a region, a physical condition, a velocity of each atom forming the particle, and a direction; and

a particle motion computing unit which generates the adsorbate particles in accordance with the information set by the kinetic condition setting unit and computes motion of the generated adsorbate particles, to simulate phenomena of said particle formed with adsorbate particles, each adsorbate particle having a corresponding emission source, wherein

for each adsorbate particle, the kinetic condition setting unit sets a region indicating a position of the corresponding emission source, and

the particle motion computing unit generates each adsorbate particle in accordance with the position of the corresponding emission source as indicated by the region set by the kinetic condition setting unit.

25. (ORIGINAL) An apparatus as in claim 24, wherein the information set by the kinetic condition setting unit defines a plurality of generation periods and a corresponding number of adsorbate particles to be generated during each generation period by the particle motion computing unit.

26. (PREVIOUSLY PRESENTED) An apparatus as in claim 24, wherein

said particle formed with adsorbate particles is formed with both adsorbate particles and substrate particles,

the information set by the kinetic condition setting unit includes information for defining kinetic conditions of the substrate particles, and

the particle motion computing unit generates the substrate particles before generating the adsorbate particles.

27. (PREVIOUSLY PRESENTED) An apparatus as in claim 24, wherein

said particle formed with adsorbate particles is formed with both adsorbate particles and substrate particles,

each substrate particle includes a fixed particle and a temperature control particle,

the information set by the kinetic condition setting unit includes information for defining kinetic conditions of the fixed particle and the temperature control particle, and

the particle motion computing unit generates the fixed particle and the temperature control particle of each substrate particle in accordance with the information set by the kinetic condition setting unit.

28. (ORIGINAL) An apparatus as in claim 24, further comprising:

a display which displays the information set by the kinetic condition setting unit.

29. (PREVIOUSLY PRESENTED) An apparatus as in claim 24, wherein

each adsorbate particle includes a plurality of atoms;

the information set by the kinetic condition setting unit includes information indicating whether the atoms of a respective adsorbate particle are static against a center of mass of the adsorbate particle; and

when the particle motion computing unit generates an adsorbate particle and the information set by the kinetic condition setting unit indicates that the atoms of the respective adsorbate particle are not static against the center of mass, the particle motion computing unit provides a random orientation to the atoms of the adsorbate particle.

30. (PREVIOUSLY PRESENTED) An apparatus as in claim 29, wherein, when the particle motion computing unit generates an adsorbate particle and the information set by the kinetic condition setting unit indicates that the atoms of the respective adsorbate particle are not fixed against center of mass, the particle motion computing unit provides an initial velocity to the atoms of the adsorbate particle.

31. (PREVIOUSLY PRESENTED) An apparatus as in claim 24, wherein, when generating an adsorbate particle, the particle motion computing unit provides a random direction within a cone pointed at a substrate and being centered at a point of generation of center of mass velocity of the adsorbate particle.

32. (CANCELED)